

Science, Technology, Engineering & Mathematics (STEM)

Total Participants

Over the eight month standards revision process, the Department involved:

- **25 Teachers** to give input, review, or discuss the revised standards
- National Institute for Automotive Service Excellence (ASE) and National Automotive Technicians Education Foundation (NATEF)

Results

Offerings in the STEM career cluster were critically evaluated and revised. The result of this effort includes the following proposed changes:

Course Changes		
New Courses	1	Introduction to Geographical Information Systems (GIS)
Replaced Courses	3	New courses for middle school and high school will be presented in January to replace outdated course standards.
Program of Study Changes		
New Programs of Study	3	New pathways are being added for Engineering, STEM, and general technology.

Review Process: Research, Data Gathering, and Reviewers

Throughout the data gathering phase of the review, the STEM consultant referenced the following:

Curriculum References	<ul style="list-style-type: none">• Engineering Software special course, Glenclyff High School, Davidson County• Geographic Skills Index, National Geographic Education• Introduction to GIS/RIS Technology, Florida Department of Education• Geography Job Skills, Occupational Outlook Quarterly, Spring 2005• Presentation: <i>Use of Geospatial Technologies (GT) in K012 STEM Education: Bringing the World into the Classroom</i> (June 28, 2012), Dr. Janey Smith Camp
Tennessee Educators	<ol style="list-style-type: none">1. CTE Directors Survey – 2012<ul style="list-style-type: none">• 95 responses2. CTE Teachers Survey – 2013<ul style="list-style-type: none">• 16 STEM Teacher responses3. Experienced, Effective CTE Teacher Reviewers<ul style="list-style-type: none">• 1 key teacher reviewer: 2012 Hamilton County Teacher of the Year, participated in Geographic Information Systems secondary education project pilot• Years of experience: 13+
Business and Industry	<p>Industry Advisory Council recommendations, including specific comments from:</p> <ul style="list-style-type: none">• Chair of GIS & Geography Department, Roane State Community College, Former GIS Section Manager at Science Applications International Corporation (SAIC)• Director of Geographic Information Sciences Laboratory at TSU, owner and Chief Consultant of GEO-Mental• Research Assistant Professor, School of Engineering, Vanderbilt University, Licensed Professional Engineer